GLOSSARY

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AM (AMPLITUDE MODULATION) AM is identified by the emission designator "A".

AUTODIN (AUTOMATED DIGITAL NETWORK) Worldwide message switching network providing message service to subscribers of DOD and National communications systems. Submarine tenders are equipped with an AUTODIN terminal.

BAS (BLACK ANALOG SWITCH) Provides switching for both secure and non-secure voice communications circuits. BAS provides switching from the crypto or non-secure line to the transmission/reception device. The system is designed in six (6) variants with the following switching capabilites:

DESIGNATION	LINES/TRUNKS	
V1	78	78
V3	90	90
V4	120	120
V5	150	150
V6	180	180
V7	210	210

BCST (BROADCAST) Provides one way message delivery to forces afloat. Many different types of broadcast exist including: Single Channel, Satellite Multi-Channel, HSFB, LF and VLF Verdin submarine broadcast.

CCSC (CRYPTOLOGIC COMBAT SUPPORT CONSOLE) Requirements listed under the "SSES" column.

CCSS (CRYPTOLOGIC COMBAT SUPPORT SYSTEM) Requirements listed under the "SSES" column.

CDF (COMBAT DIRECTION FINDING) Requirements listed under the "SSES" column.

CHIRPSOUNDER (CHIRPSOUNDER) Measures High Frequency (HF) radio signal propagation parameters and provides users with the ideal frequency range to use.

COPERNICUS An architecture that supports the transfer of sensor, intelligence, Command and Control (C^2) combat direction, weapons systems control, electronic warfare, and logistic support information between and among all tactical and mission support systems.

COPERNICUS\ TADIXS A series of afloat virtual networks. Copernicus Tadixs are information networks sharing communications circuitry over a broad menu of bearer services from HF, VHF, UHF, SHF, and EHF to Commercial Satellites.

DWTS (DIGITAL WIDEBAND TRANSMISSION SYSTEM) A conceptual wideband line-of-site transmission system primarily used with Amphibious operations (ship-to-ship and ship-to-shore) and using a frequency range between 1350-1850 mHz.

EHF (EXTREMELY HIGH FREQUENCY) 30-300 gHz. For this instruction EHF is considered 20.2-45.5 gHz.

ELF (EXTREMELY LOW FREQUENCY) .3-3 kHz.

EPIRB (EMERGENCY POSITIONING INDICATOR RADIO BEACON) An emergency radio system using 406 mHz and 121.5 mHz. This system replaces the 500/8364 kHz requirement.

FDCS (FLIGHT DECK COMMUNICATION SYSTEM) Provides communications with flight deck personnel during flight operations. Uses a fixed master station and portable radios on flight deck personnel.

FM (FREQUENCY MODULATION) FM is identified by the emission designator "F".

FREQUENCY SPECTRUM The international radio frequency band designation are shown below with their numerical designations:

ELF (1)	3-30 Hz	HF (7)	3-30 mHz
SLF (2)	30-300 Hz	VHF (8)	30-300 mHz
ULF (3)	.3-3 kHz	UHF (9)	.3-3 gHz
VLF (4)	3-30 kHz	SHF (10)	3-30 gHz
LF (5)	30-300 kHz	EHF (11)	30-300 gHz
MF (6)	.3-3 mHz		

FSK (FREQUENCY SHIFT KEYING) FSK is identified by the emission designator "F1B".

GHZ (GIGAHERTZ) A unit of frequency in billions.

HAVEQUICK (HAVEQUICK) Provides Ultra High Frequency (UHF) Line of Sight (LOS) with a frequency hopping capability.

HZ (HERTZ) A unit of frequency.

HF (HIGH FREQUENCY) 3-30 mHz. For this instruction HF is considered 2-30 mHz.

HFDS (HIGH FREQUENCY DATA SYSTEMS) Replaces MC Duplex and SC Simplex/Duplex systems. HFDS is a VME based (VME chassis shared with HSFB) high frequency information transfer system which provides a TDM with 12 channels reconfigurable 75-9600 bps and HF MODEMs as required which operate up to 9600 bps.

HFRG (HIGH FREQUENCY RADIO GROUP) Provides Command, Control, Communications, and Computer (C^4) operational requirements for high frequency Ship-to-ship, Ship-to-air, and Ship-to-shore tactical and strategic radio communications. The AN/URC-() accomplishes this through its ability to provide rapid radio frequency changes and Broadband Radio architecture. Automates HF transmit and receive functions, increases HF radio reliability, minimizes channel separation, and reduces topside antenna requirements.

HSFB (HIGH SPEED FLEET BROADCAST) Replaces MC Broadcast requirements. HSFB is a Satellite broadcast consisting of a VME chassis (Shared with HFDS), a TDM with 12 reconfigurable channels (75-9600 bps), and a Satellite MODEM/CODEC which operates up to 9600 bps.

INMARSAT (INTERNATIONAL MARITIME SATELLITE).

ISB (INDEPENDENT SIDE BAND).

JCF (JUSTIFICATION/COST FORM).

JTIDS (JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM) (Link 16) Provides secure jam resistant air, ship-air, air-ship and ship-ship data and voice communications, relative navigation and precise identification in the 960-1215 mHz frequency range.

KHZ (KILOHERTZ) A unit of frequency in thousands.

LASS (LAUNCH AREA SUPPORT SHIP) Trident missile launch area support ship.

LF (LOW FREQUENCY) 30-300 kHz.

LPI (LOW PROBABILITY OF INTERCEPT).

LSB (LOWER SIDE BAND).

MC (MULTI-CHANNEL).

MCIXS (MARITIME CELLULAR INFORMATION EXCHANGE SYSTEM) Provides Battle Groups (BG) and Amphibious Readiness Groups (ARG) with Commercial-Off-The-Shelf (COTS) cellular telephone system. A cellular telephone base station is installed on BG/ARG flagships and handset operating terminals on all BG/ARG units.

MF (MEDIUM FREQUENCY) .3-3 mHz.

MHZ (MEGAHERTZ) A unit of frequency in millions.

MILDET (MILITARY DETACHMENT) Aboard USNS ships.

MPD (MESSAGE PREPARATION DEVICE) Prepares message traffic for transmission. This requirement may be filled by a video display terminal, keyboard and message transfer capability or a teleprinter with message transfer capability.

MSC (MILITARY SEALIFT COMMAND).

MSK (MINIMUM SHIFT KEYING) MSK is identified by the emission designator "F9" or "004HF1B".

NAVMACS (NAVAL MODULAR AUTOMATED COMMUNICATIONS SYSTEM) NAVMACS system currently in use consist of five variants (NAVMACS V1, V2, V3, V5 and V5A). The chart below shows each systems capabilities:

Message screening (4 Channels)	
Message logging	
Message serial checking	
Minimal message retention	
CUDIXS transmit	V1
CUDIXS receive	
Improved traffic processing	V2
Added message accountability	
Message storage on MAG tape	
Message retrieval	
Comm report generation	
Message preparation device	
Improved traffic processing	V3
Supply communications interface	
Advance message accountability	
Mass message retention on tape/disc	
Improvde traffic processing	
Duplicate message searching	
Electronic message releasing	
Internal distribution to remote terminals	
Internal routing to remote terminals	V5/V5A

NAVMACS II Next generation NAVMACS currently being developed. Incorporates all existing NAVMACS capabilities plus many additional capabilities including greatly expanded memory/storage, CUDIXS at 9.6 kbps, complete system redundancy, use of non development initative (NDI) equipment, and greatly reduces weight and size. NAVMACS II will provide an interface to shipboard Local Area Netowrks (LAN).

NAVTEX Low-cost commercial off the shelf receiver designed to acquire weather warnings, navigational notices and search and rescue messages.

OTCIXS (OFFICER IN TACTICAL COMMAND INFORMATION EXCHANGE SYSTEM) Provides for a two way exchange of perishable tactical information between multiple subscribers using a High Data Rate (HDR) Satellite channel.

PMI (PROPOSED MILITARY IMPROVEMENT).

PSK (PHASE SHIFT KEYING) PSK is identified by the emission designator "F".

QMCS (QUALITY MONITORING CONTROL SYSTEM) Monitors communications signals and aids in maintaining RCS equipment performance standards. While all ships require some quality monitoring capability, ships with NAVMACS will have a QMCS installed.

RED SAS (RED SINGLE AUDIO SYSTEM) Provides access for both secure and non-secure voice communicaitons circuits. Red SAS provides switching from the remote transmission/reception devices to the secure crypto or non-secure line. Installed in one of two types with multiple versions according to platform needs. SAS(A) is an automatic switch designed in eight (8) variants with the following capabilities:

DESIGNATION	LINES/TRUNKS	
V1	36	17
V3	54	33
V4	72	44
V5	90	55
V6	108	66
V7	126	77
V8	144	88
V9	162	99

SAS(M) is a manual switch capable of plain and cypher operation, replacing separate secure and non-secure remote audio transmission/reception devices.

RFCS	(RADIO FREQUENCY CARRIER SHIFT).
SC	(SINGLE CHANNEL).
SINCGARS	(SINGLE CHANNEL GROUND TO AIR RADIO SYSTEM) Provides Very High Frequency (VHF) 30-88 mHz with a frequency hopping capability.
SHF	(SUPER HIGH FREQUENCY) 3-30 gHz. For this instruction SHF is considered 7-8 gHz.
SSES	(SHIP'S SIGNAL EXPLOITATION SPACE).
SSIXS	(SUBMARINE SATELLITE INFORMATION EXCHANGE SYSTEM) Provides submarines with a High Data Rate (HDR) satellite capability to receive group broadcast at scheduled intervals and process communications.
SURTASS	(SURFACE TOWED ARRAY SONAR SYSTEM).
TACINTEL	(TACTICAL INTELLIGENCE SYSTEM) Provides the Special Intelligence (SI) community with a High Data Rate (HDR) satellite capability to process SI communications.
TADIXS	(TACTICAL DIGITAL INFORMATION EXCHANGE SYSTEM) Provided in two configurations, TADIXS A and TADIXS B.
TADIXS A	Provides one way satellite delivery of digital data from various shore sites (SOCC/MPCC/FOSIC/FOSIF) to TOMAHAWK missile equipped ships/submarines and major afloat commanders.
TADIXS B	Provides UHF satellite broadcast of near-real-time contact reporting on ocean surveillance and land based emmiter intercepts to tactical receive equipment (TRE) configured users, including flagships and TOMAHAWK missile equipped platforms. The standard configuration is a dual channel receive capability merged into a single processor.
TDM	(TIME DIVISION MULTIPLEXER) In addition to their current requirements TDM systems are replacing VFCT systems.
TMR	(TONE MODULATED RADIOTELETYPE)
TRP	(TROOP) USMC communication spaces on amphibious ships.
UHF	(ULTRA HIGH FREQUENCY) 300-3000 mHz. For this instruction UHF is considered 225-399 mHz.

UHF DAMA (UHF DEMAND ASSIGNED MULTIPLE ACCESS) Multiplex's up to four independent terminal systems on a single 25 kHz UHF satellite channel.

USB (UPPER SIDE BAND).

VERDIN (VERDIN) Provides multi-channel (Up to 4 channels) MSK submarine broadcast in the LF AND VLF frequency range.

VFCT (VARIABLE FREQUENCY CARRIER TELEGRAPH) Multiplex's up to 16 channels send and receive using frequency division multiplexing. This capability is currently authorized for removal from ships.

VHF (VERY HIGH FREQUENCY) 30-300 mHz. For this instruciton VHF is referred to in 3 bands, VHF low band is 30-88 mHz. VHF mid band is 115-156 mHz and VHF high band is 156-162 mHz.

VLF (VERY LOW FREQUENCY) 3-30 kHz.

VME (VERSA MODULE EUROCARD)

VVFD (VOICE, VIDEO, FACSIMILE, AND DATA) Low cost, ship-to-shore, interactive imagery system using a MS-DOS PC operating system over a standard telephone grade circuit using the HF, SHF, and INMARSAT medium. The STU-III, ANDVT, or KG-84 provides secure capability. Provides for the transfer of full color, still images with real-time, on-screen annotation between participants. Also provides voice conversation between participants during on-screen video activity.